



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

§ 61. Notes upon *Anychia dichotoma*, Mx.—Michaux proposed the genus *Anychia* in the Flora Bor. Am. (1802) and transferred to it the *Queria Canadensis*, L., changing the specific name to *dichotoma*. Under this name have been included two forms of quite diverse aspect. Nuttall, in his Genera (1818) first separated the more slender one, proposing for it the specific name of *Queria capillacea*, and indicated some of the distinctive characters. In this he was followed in the same year by Dr. Barton in the Compend. Floræ Philadelphicæ, who gives good diagnoses and calls *Q. capillacea* "a genuine and well marked species" but says that Dr. Muhlenberg "wished to see further" before accepting it. Dr. Torrey in the Flora of the Northern and Middle States makes *Anychia capillacea* to be var. β . of *A. dichotoma*, remarking that he was unable to discover any characters sufficient to distinguish the two. De Candolle in the Prodrômus Vol. III. (1820) admits the two species as distinct, but adds that Dr. Torrey's view seemed to be confirmed by specimens received from him and from Dr. Bigelow. Nearly or quite all of the subsequent writers upon the Flora of the U. S. have followed Dr. Torrey, and in Gray's Manual the two forms are only recognized as varieties of one species.

How great may be the range of variation in other localities I am not able to say, nor whether the two forms are connected by intermediate links; but for the purpose of directing enquiry to this point, I take this occasion to say that the plants which I have seen and collected in this vicinity, have strongly impressed me with the idea that they belong to two valid species. The slender capillary form (*A. capillacea*, Nutt.) occurs on the wooded sides of deep ravines growing singly and scattered, with something of the aspect of an *Adiantum*. The other form I have found less frequently, and growing in close patches of considerable extent in more open level woods. So different is its appearance as well as its habit of growth that at first glance I had no suspicion of its relationship to the other. Close examination proved relationship but seemed to disprove identity. Compared with *A. capillacea* it is more pubescent, thicker and more robust in the stems and branches, shorter jointed, and of less height. Its leaves are more slender and lanceolate, its flowers numerous and crowded toward the ends of the branches, instead of being few and axillary, with the stipules at base of the flowers as long as the flowers. In addition to these points of difference, which have been previously noticed, I find that in my specimens of *A. capillacea* the persistent calyx is much shorter than the utricle (as shown in the figure in Gray's Genera), and is usually smooth and thin, becoming scarious towards the edges of the lobes. In the other form I find the calyx nearly or quite covering the utricle, and having its lobes thicker and more or less costate. The difference of station has been adduced as a cause of variation, but may it not as well be considered as evidence of diversity of species?

If further examination should result in retaining the two forms under one name, the law of priority would seem to require a return to Linnæus' specific name, making the name *Anychia Canadensis*.

Indeed, Wood in his Class Book, placing the plant in the genus *Paronychia*, calls it *Canadensis*, perhaps compelled to this by the fact that *Paronychia* already held a species *dichotoma*, quite another affair. But if the two species be distinct, as I am inclined to believe, it may be a matter of doubt as to which form is entitled to take the Linnæan name. But as Nuttall first discriminated between the two, it would be just to retain his name *A. capillacea* for the one, and to give the name *dichotoma* to the other, thus avoiding the doubt.

JOHN H. REDFIELD.

Philadelphia, Oct. 22.

§ 62. *Pontederia cordata*, L.—A season or two back a clump of Pickerel-weeds engaged the attention of Mr. Hall and myself by an appearance of di- or trimorphism in the flowers, and we gathered a number of heads for examination at more leisure than we then had. It was, however, only late this autumn, too late to get fresh specimens, that I renewed my examination, and in the dried flowers I did not well make out what it was that struck us in the fresh ones, and unfortunately Mr. Hall is not here to give me the benefit of his recollection. H. Müller (*Befrucht. der Blum.* p. 62.) gives Kuhn (*Bot. Z.*, 1867, S. 67) as his authority for stating that *Monochora*, L., has cleistogamic flowers; and states that his brother has found in South Brazil two species of *Pontederia* probably trimorphic. I hope to resume the subject next season, but in the meantime wish to call attention to the result of the examination of the dried spikes, as it revealed some points of interest.

The spike of *Pontederia* is compound, the spikelets being arranged in the $\frac{1}{3}$ system common to endogens. The main spike begins to flower at the base, but, as the flowers of the spikelet develop successively, mature and immature flowers may be found all along the spike, when in full bloom, giving it its somewhat ragged appearance. There are three (or perhaps sometimes four) flowers in each spikelet, but to what extent they all develop I am in doubt.

In all the flowers which had matured and coiled up, I found the style as long at least as the longer stamens, but in all the other flowers, whether fully opened or apparently about opening, the style was intermediate in length between the two sets of stamens. This lengthening of the style as the flower matures occurs in other plants (for example *Epiphegus*, *Menyanthes*.) and in some cases might be explained by its partaking of the general growth of the pistil, but in this case and that of the sterile flowers of *Epiphegus*, this solution is not so satisfactory.

Of the six stamens, three on long and three on short filaments, I uniformly found the anther cells empty or nearly so in the fully opened flowers, but in those apparently nearly ready to expand the anthers seemed just mature and shedding their pollen, all the six equally. In the unopened flowers all the stamens held their heads erect, but in the opened flowers the shorter three uniformly had their anthers turned down. These unopened flowers seemed generally, if not always, the second one of the set on the spikelet, but I have not examined this sufficiently.

The most remarkable point noticed was the difference in the size